AMENDMENTS TO THE CLAIMS

1-88 (Cancelled)

89. (Currently Amended) A multi-reaction site disc assay plate structure comprising:

an upper surface and a lower closely spaced opposed surface, said upper and lower surfaces defining a space therebetween, the lower surface having a plurality of separate reaction sites, the reaction sites being treated to increase the hydrophilicity thereof, and the lower surface being treated to increase the hydrophobicity of the surface other than at said reaction sites;

at least one opening providing access to said space from an external location, the spacing between said upper and lower surfaces being sufficiently small to facilitate the flow of fluid in said space by capillary action of a fluid introduced into said space through said opening to substantially fill the space and cover all of the sites, the sites being such that when excess fluid is subsequently withdrawn through the one or another opening some of said liquid is left at said sites; and

encoded information ~~associated with~~ stored in at least one of said upper and lower surfaces so as to be readable by a scanned light beam, said encoded information including address information ~~for at least one of said reaction sites~~ providing location information as to the part of said discs being scanned by the light beam.

90. (Previously Presented) The assay plate structure of claim 89 wherein the spacing is less than 1mm.

91. (Previously Presented) The assay plate structure of claim 89 wherein the spacing is less than 0.5mm.

92. (Previously Presented) The assay plate structure of claim 89 wherein said opening for introducing a fluid is provided to receive the end of a liquid injecting device, and said opening forms a substantially air-tight seal around said end.

93. (Previously Presented) The assay plate structure of claim 89 wherein the multi-well structure is a disc which includes upper and lower circular plates, the internal surfaces of which respectively define said upper and lower opposed surfaces.

94. (Previously Presented) The assay plate structure of claim 93 wherein a second opening is provided at the peripheral edge of the disc.

95. (Previously Presented) The assay plate structure of claim 94 wherein the space between the upper and lower plates is subdivided, by one or more dividing walls, to provide a plurality of spaces, each space being provided with a fluid introduction opening and a vent opening to enable each space to be independently filled.

96. (Previously Presented) The assay plate structure of claim 93 wherein at least one of the upper and lower plates forming the structure are transparent to enable optical inspection of the sites from outside the structure.

97. (Previously Presented) The assay plate structure of claim 96 wherein the other of the upper and lower plates includes a reflecting surface for providing improved signal detection.

98. (Previously Presented) The assay plate structure of claim 89 wherein the plate structure is provided in the form of a disc and said encoded information is digitally encoded.

99. (Previously Presented) The assay plate structure of claim 98 wherein at least a portion of the plate structure is transparent for optical inspection of said wells.

100-104. (Cancelled)

105. (Currently Amended) An optically transparent disc structure for conducting assays said structure comprising:

one or more chambers, each having an upper surface and a lower spaced opposed surface, said upper and lower surfaces defining a space therebetween, the lower surface having a plurality of surface locations bearing a hydrophillic coating, the spacing between said upper and lower surfaces being provided to facilitate fluid flow by capillary action of a fluid introduced into said space to cover all of the locations bearing a hydrophillic coating; and

encoded information ~~associated with~~ stored in at least one of said upper and lower surfaces so as to be readable by a scanned light beam, said encloded information including address information providing location information as to the part of said disc structure being scanned by the light beam for at least one of said plurality of surface locations.

106. (Previously Presented) The structure of claim 105 including at least one opening providing access to said space from an external location.

107. (Previously Presented) The structure of claim 105 wherein areas of said lower surface between said locations include hydrophobic coatings.

108. (Previously Presented) The structure of claim 105 wherein said surfaces are provided by respective upper and lower plates of a disc.

109. (Previously Presented) The structure of claim 106 wherein said one opening providing access to said space is provided through either the upper or lower surface.

110. (Previously Presented) The structure of claim 108 wherein said encoded address information is provided for optical inspection of said at least one of said plurality of surface locations from exteriorly of said structure.

111. (Previously Presented) The structure of claim 106 wherein said opening for providing access to said space is provided to receive the end of a liquid injecting device, and said one opening forms a substantially air-tight seal around said end.

112. (Previously Presented) The structure of claim 105 wherein the structure is a disc which includes upper and lower circular plates, the internal surfaces of which respectively define said upper and lower opposed surfaces.

113. (Previously Presented) The structure of claim 112 wherein a first opening is provided for access to said space from an external location and second opening is provided at a peripheral edge of the disc to vent said space.

114. (Previously Presented) The structure of claim 112 wherein the space between the upper and lower plates is subdivided, by one or more dividing walls, to provide a plurality of spaces, and each space being provided with a fluid introduction opening and a vent opening to enable independent access to each space.

115. (Previously Presented) The structure of claim 114 wherein the dividing walls are radially extending.

116. (Previously Presented) The structure of claim 112 wherein at least one of the upper and lower plates forming the structure is transparent to enable optical inspection of the surface locations from outside the structure, and the other of the upper and lower plates includes a reflecting surface.

117. (Previously Presented) The structure of claim 105 arranged to receive one or more inserts.

118. (Previously Presented) The structure of claim 105 wherein the structure is provided as a sector of a disc.

119. (Previously Presented) The structure of claim 118 wherein the structure is made of plastic and said one or more inserts is snap-fitted onto the disc.

120. (Previously Presented) The structure of claim 119 wherein the structure and the disc include lock and key portions to allow the structure to be snap-fitted to the disc in a correct orientation only.

121. (Previously Presented) The structure of claim 105 including one or more lenses to improve the optical inspection of said surface locations.

122. (Previously Presented) The structure of claim 121 wherein said one or more lenses are molded into said structure.

123. (Currently Amended) A multi-reaction site disc assay plate structure comprising:

an upper surface and a lower opposed surface, said upper and lower surfaces defining a space therebetween, the lower surface having a plurality of separate reaction sites, the reaction sites being treated to increase the hydrophilicity thereof, and the lower surface being treated to increase the hydrophobicity of the surface other than at said reaction sites, the spacing between said upper and lower surfaces being provided to facilitate the flow of fluid in said space by capillary action of a fluid introduced into said space through said opening to cover all of the sites; and

encoded information ~~associated with~~ stored in at least one of said upper and lower surfaces so as to be readable by a scanned light beam, said encoded information including address information ~~for at least one of said reaction sites~~ providing location information as to the part of the disc being scanned by the light beam.

124. (Previously Presented) The assay plate structure of claim 123 including at least one opening providing access to said space from an external location.

125. (Previously Presented) The assay plate structure of claim 124 wherein said opening providing access to said space is provided to receive the end of a liquid injecting device, and said opening forms a substantially air-tight seal around said end.

126. (Previously Presented) The assay plate structure of claim 123 wherein the structure is an optically transparent disc which includes upper and lower circular plates, the internal surfaces of which respectively define said upper and lower opposed surfaces.

127. (Previously Presented) The assay plate structure of claim 126 wherein a second opening is provided at a peripheral edge of the disc.

128. (Previously Presented) The assay plate structure of claim 127 wherein the space between the upper and lower plates is subdivided, by one or more dividing walls, to provide a plurality of spaces, each space being provided with a fluid introduction opening and a vent opening to enable each space to be independently accessed.

129. (Previously Presented) The assay plate structure of claim 126 wherein at least one of the upper and lower plates forming the structure are transparent to enable optical inspection of the sites from outside the structure.

130. (Previously Presented) The assay plate structure of claim 129 wherein the other of the upper and lower plates includes a reflecting surface.

131. (Previously Presented) The assay plate structure of claim 126 wherein said encoded address information is digitally encoded.

132-140. (Cancelled)